



AF/1755

Docket No.: 050395-028

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

Masuhiko NATSUHARA, et al.

Serial No.: 09/339,826

Filed: June 25, 1999

For: CERAMIC BASE MATERIAL

Group Art Unit: 1755

Examiner: K. Group

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SUPPLEMENTAL REPLY BRIEF

Commissioner for Patents
Washington, DC 20231

Sir:

This Reply Brief is submitted in response to the Supplemental Examiner's Answer mailed November 14, 2002.

ARGUMENT

In the November 18, 2002 Supplemental Examiner's Answer, the Examiner provided an English Language translation of Japanese Document 08-157265 (J'265) in support of the rejection of claims 1 through 3 under 35 U.S.C. §102 for lack of novelty or, alternatively, under 35 U.S.C. §103 for obviousness predicated upon J'265. The Examiner asserted that J'265 discloses an aluminum nitride body having a sintering agent and that the aluminum nitride substrate is sintered with layers of boron nitride without explaining the relevance of that assertion. The Examiner also asserted that the surface roughness of the disclosed aluminum nitride sintered body "... is not unlike the value set forth by Applicants in Table 1 aT, page 18 of the disclosure" (page 1 of the November 18, 2002 Supplemental Examiner's

Answer.)

UNDISPUTED FACTS

As argued throughout prosecution and throughout this appeal, Appellants have disclosed a problem, i.e., distortion upon heat treatment subsequent to sintering. Appellants have discovered the source of the problem, i.e., lack of uniformity of distribution is sintering agents. Appellants have provided enabling methodology to achieve a uniform distribution of sintering agents and have factually confirmed that a uniform distribution of sintering agents does not automatically occur in conventional practices. These facts, to date, are not disputed on this record. *In re Clinton*, 527 F.2d 1226, 188 USPQ 365 (CCPA 1976).

J'265

The English Language translation of J'265 provided by the Examiner does not even acknowledge the problem of distortion upon heat treatment subsequent to sintering. J'265 certainly does not recognize the source of the problem, i.e., lack of uniformity of distribution of sintering agents. J'265 does not purport to solve that problem.

THE REJECTION IS FACTUALLY AND LEGALLY ERRONEOUS

The Examiner asserts that the aluminum nitride substrate is sintered with layers of boron nitride referring to page 1 of the MEANS portion, lines 9 through 19. The relevance of that assertion is not apparent. At any rate, Applicants would note that J'265 is concerned only with a smooth surface -- not distortion or the uniformity of distribution of sintering agents between opposing surfaces, as in the claimed invention. To achieve that objective, a liquid phase sintering technique is employed with sintering agents. However, the boron nitride mentioned by the Examiner is merely a substrate utilized in

producing layered products. To whatever extent the Examiner may have contemplated equating that evulgation to the disclosed embodiment of the present invention which comprises burying stacked formed bodies in powder so that the powder lies between the neighboring surfaces of the form bodies, the Examiner's tacit attempt is, manifestly misguided, which may explain the Examiner's conspicuous silence.

The Examiner's discussion of the surface roughness would not appear particularly relevant to the pivotal inherency issue at hand. Appellants refer to page 19 of the written description of the specification, wherein it is disclosed that before measurements were taken, both surfaces were brushed to obtain a surface roughness in order to ensure that the warp measured after grounding was essentially the same as the warp measured before grounding. Thus, the surface roughness mentioned was merely a step in a test procedure to ensure that there was no change in warp.

The bottom line is that the Examiner actually points to nothing in J'265 to support the factual determination that the disclosed method inherently, i.e., **necessarily**, yields an aluminum nitride ceramic based material having a uniformity of distribution of sintering agents between opposing surfaces as set forth in independent claim 1, much less that such would have been recognized by one having ordinary skill in the art. *Elan Pharmaceuticals Inc. v. Mayo Foundation*, ___ F.3d ___, 64 USPQ2d 1292; *Crown Operations International Ltd. v. Solutia Inc.*, 289 F.3d 1367, *Finnegan Corp. v. ITC*, 180 F.3d 1354, 51 USPQ2d 1001 (Fed. Cir. 1999); *In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999).

As also argued throughout prosecution and on Appeal, it is undisputed that the objective test data presented in Table 2 confirm that the uniform distribution of sintering agents does **not just happen to occur**. Rather, enabling methodology must be implemented to achieve that objective. The Examiner

continues to commit legal error by choosing to ignore such objective evidence undermining any notion of inherency. *In re Glaug*, ___ F.3d ___, 62 USPQ2d 1151 (Fed. Cir. 2002); *In re Soni*, 54 F.3d 746, 34 USPQ2d 1685 (Fed. Cir. 1995); *In re Margolis*, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986).

Appellants would stress that the present invention stems from the discovery that the uniformity of distribution of sintering agents impacts warpage, and that the claimed invention provides methodology controlling the uniformity of distribution of sintering agents yielding a ceramic-based material containing sintering agents having a specified uniformity of sintering agents between opposing surfaces as claimed. The Examiner has not provided any factual or technological basis upon which to predicate the determination that an aluminum nitride sintered body having the uniformity distribution of sintering agents as set forth in claim 1 is disclosed, suggested, inherently formed or enabled by the applied prior art. In short, none of the applied references, including J'265, places the claimed invention into the possession of the public. *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 167 (Fed. Cir. 1994).

Insofar as the imposed rejection under 35 U.S.C. §103 is concerned, Appellants submit that the Examiner has not made the requisite "thorough and searching" factual inquiry and, based upon such a factual inquiry, explain **why** one having ordinary skill in the art would somehow have been realistically motivated to deviate from the teachings of J'265 to arrive at the claimed invention. *In re Lee*, 237 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

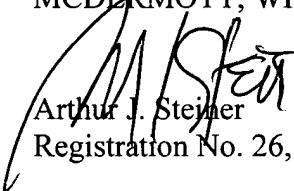
For the reasons set forth in the March 12, 2001 Appeal Brief, for the reasons set forth in the June 21, 2001 Reply Brief, and for the reasons set forth supra, Appellants submit that the imposed

rejections under 35 U.S.C. §102/35 U.S.C. §103 are not factually or legally viable.. Appellants, therefore, solicit the Honorable Board to reverse each of the Examiner's rejections under 35 U.S.C. §102/35 U.S.C. §103.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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